OTHER ESTIMATING REQUIREMENTS CHAPTER 17

WRECKING AND SALVAGING

SIMPLE PROCEDURES

Only relatively simple procedures are currently used by the Army engineers to wreck structures. Far less effort is made to salvage construction materials than once was, since labor costs have increased more than material costs. The salvage of marine vessels is a separate subject and is covered in TM 55-503.

USE OF ESTIMATING TABLE

Table 17-1, page 17-2, may be used to prepare preliminary man-hour estimates for wrecking and salvaging land structures. Because of the great variance in capacity of wrecking equipment, only the roughest labor estimates are included here. The table does not provide for moving to the site or hauling salvaged materials.

EXAMPLE OF TABLE USE

Problem. Sixteen wooden barracks are to be demolished. Salvageable material is minimal, but includes parts of furnaces. Labor is largely unskilled, but four crews can work simultaneously. Tractors are available. Each barracks contain 36,000 cubic feet (60 x 30 x 20) or 36 units. Using average man-hour estimates in Table 17-1, find the total man-hours required to perform the work.

Solution. Since each unit requires 12 man-hours, the total work estimate is 36 x 12 x 16 = 6,912 man-hours. Thus, approximately 6,900 man-hours are needed to complete this task.

REMOVING SNOW

TYPES OF SNOW REMOVAL

Snow removal includes the salting or sanding of roads and airfields, the plowing of roads and airfields by a 5-ton dump truck with a plow or grader, snow blowing, and shoveling of sidewalks by workers or with a garden tractor. Hauling of snow is not included because this activity is similar to earth moving with front loaders and dump trucks (see Chapter 6).

EQUIPMENT SELECTION

Table 17-2, page 17-2, divides snowfalls into three types: light (under 2 inches), medium (2 to 6 inches), and heavy (over 6 inches). For light snowfalls, use salt to melt ice or sand to provide traction on the roads. A salt truck spreads salt or sand most efficiently, although spreading can be done by shovelers spreading salt or sand from the backs of dump trucks. For a medium snowfall, graders (which are able to clear wide paths at relatively high speeds) are the most efficient snow removal equip-

ment for main roads. Snowplows mounted on 5-ton dump trucks are used for secondary roads. For heavy snowfalls and large accumulations, snowblowers are necessary to discharge the snow over the high snow banks which build up on both sides of the road. Plows are used to move snow to the sides of the road. While graders alone cannot handle heavy snow loads, they are used continuously during a heavy snowstorm to keep main roads open.

ESTIMATING TABLE

Table 17-2 may be used to prepare preliminary man-hour estimates for snow removal.

Table 17-1. Wrecking and salvaging structures

Work element description	Unit	Man-hours/unit
Wood	1,000 cu ft	12
Brick	1,000 cu ft	20
Stone	1,000 cu ft	24
Steel	1,000 cu ft	18
Reinforced concrete	1,000 cu ft	24
NOTE: Typical crew: 1 leader and 8 workers.		

Table 17-2. Snow removal

Work element description	Equipment	Unit	Equipment hours/unit
Roads and airfields:			
Light snowfall (less than 2 inches) (salting and/or sanding)	Salt truck	mile (15' width)	0.2[1]
	Dump truck and shovelers	mile (10' width)	0.35[1]
Medium snowfall (2 to 6 inches) (plowing)	5-ton dump with	mile (6' width)	0.15
	plow grader	mile (10' width)	0.18
Heavy snowfall (over 6 inches) (plowing and blowing)	5-ton dump with plow	mile (6' width)	0.25
	heavy-duty blower	mile (6' width)	0.15
Sidewalks:			
Light snowfall (less than 2 inches)	Men	1,000 lin ft	1.8
	Sidewalk tractor	1,000 lin ft	0.25
Medium snowfall (2 to 6 inches)	Men	1,000 lin ft	2.0 - 4.0
	Sidewalk tractor	1,000 lin ft	0.25 - 0.35
Heavy snowfall (over 6 inches)	Men	1,000 lin ft	4.0 + 0.5 per inch over 6 inches
	Sidewalk tractor	1,000 lin ft	0.35 + 0.06 per inch over 6 inches

[1]Includes refill time.